

The Palma Christi, or Ricinus Americanus, commonly call'd, the Castor Plant.

—ut Palma florebit Pind:

A

DISSERTATION

ON THE

Oleum Palmæ Chriſti,

Sive OLEUM RICINI;

Or, (as it is commonly called)

CASTOR OIL:

IN WHICH

Its HISTORY is illuſtrated; its PROPERTIES and VIRTUES explained;

AND

Its USES in BILIOUS, CALCULOUS, and other DISORDERS, recommended.

The SECOND EDITION, reviſed and corrected.

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OF BATH,

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Scribant alii, quibus iſta mens eſt miracula ex auditu, ego, quod hiſce oculis, & qualicunque meo judicio percepi, vobis ſpectandum propono.

JACOBUS BONTIUS.

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PREFACE.

I HAVE lately read, with great pleaſure, four elegant treatiſes on the *colica pictonum*, or *dry belly-ache*, written by four living and ſhining ornaments of the profeſſion, in four different parts of Europe; I mean, by the incomparable Dr. *Huxham* of Plymouth; the judicious Dr. *de Haen* of Vienna; the learned Dr. *Thierry* of Paris; and the methodical Dr. *Tronchin* of Amſterdam.

Thoſe gentlemen have treated the ſubject with the utmoſt art; have inveſtigated the cauſes and ſymptoms with the greateſt perſpicuity; and have all unanimouſly agreed to commence the cure with *purgatives*; but unfortunately none of that claſs of medicines we know of, in the

materia medica, are appropriated to this terrible diſorder.

Laxatives, given in ſuch quantities and form as may ſeem to anſwer the intention beſt, will frequently not ſtay on the ſtomach, on account of the great doſe required to be taken; and *draſtic*, *rough purges*, are condemned by all with great juſtice, as they draw the inteſtines into ſpaſmodic contractions, and add irritation to irritation.

Therefore, as the *oleum palmæ chriſti*, the ſubject of the following treatiſe, an incomparable medicine in this caſe, was not known to thoſe learned gentlemen above-mentioned, I thought it would not be unacceptable to the public, to ſee a few obſervations I have made from a practice of near twenty years, in uſing and applying this oil; ſeven years of which I have conſtantly uſed it with ſucceſs in America, and near twelve years in my practice in England I have applied it occaſionally, and as I could procure

cure it from abroad; and I can venture to affirm, that, except the *peruvian bark* in intermitting caſes, I never met with a more valuable medicine in all *bilious complaints*, and ſome other diſorders, which will be ſpecified in the courſe of this pamphlet.

The truth of this aſſertion I do not doubt but will be atteſted by thoſe gentlemen of the profeſſion, who have ever practiſed abroad, and uſed this oil either in the Engliſh or French Leeward Caribbee iſlands.

Mr. *Fraſer*, who was ſurgeon to his majeſty's troops of the iſland of Antigua, has ſome time ago given, in the *medical eſſays* of London, a very ſhort but genuine account of ſome of the properties of this oil; being the only tract I have ever ſeen publiſhed of it: which to me ſeems very ſurpriſing, as I am ſure it has been uſed in thoſe iſlands with ſucceſs theſe thirty or forty years.—I could have corroborated every aſſertion in the fol-

lowing treatiſe, by exhibiting caſes I have by me, but was afraid of ſwelling this pamphlet to a volume; which was not my deſign. Beſides, I have not leave from ſeveral gentlemen and Ladies, of publiſhing their names in print; without which I have always deemed it folly to publiſh caſes, as it is very well known there is nothing eaſier than to adapt and form ſuch caſes, in order to ſupport ſome particular favourite hypotheſis.

In treating of this oil, I have ſketched out the principal diſeaſes to which it is chiefly adapted. In this I have not advanced any hypotheſis, or given any rules of practice but what are deduced from the ſtructure of the parts in the animal œconomy, and confirmed by obſervations of Dr. *Boerhaave*, his learned commentator, and Dr. *Mead*. Sometimes I have made uſe of theſe gentlemen's words in deducing practical inferences, not knowing where to find better, in order to ſtrengthen, by the authority of ſuch great

great names, my doctrine concerning this medicine.

As this oil, ſince my firſt publication of this pamphlet, is now become officinal, (it being ſold at the Apothecaries-hall and at ſeveral other ſhops in London and Bath) the ſeeds from which it is extracted, may be eaſily imported, at a very reaſonable rate, as the plant grows wild and in great plenty, in every one of the Engliſh and French iſlands. We have the beſt and moſt valuable of our medicines in this manner from abroad; ſuch as the *Peruvian bark*, *Rhubarb*, *Ipecacuahna*, &c.

If, in writing and compiling this ſmall treatiſe, I have any ways contributed towards promoting the *ars medendi*, my chief aim is anſwered.

If there ſhould be any errors in this performance, (as ſome no doubt there are) I hope the candid reader will make the proper allowances, when he conſiders,

that I may in ſome reſpect ſay with *Lucretius*.

- - - Peragro loca, nullius ante
- - - - - - trita ſolo.

Since my firſt publication of this treatiſe, I have never once had any reaſon to alter my opinion in any one point, concerning this oil and its effects. The public, I believe, is now ſufficiently convinced of its efficacy in all bilious and other complaints ſpecified in this pamphlet, as this medicine is now univerſally preſcribed by the moſt eminent phyſicians not only in this kingdom but in ſeveral other parts of Europe and America.

A Diſ-

A Diſſertation, &c.

IT is univerſally allowed, by all the learned of the profeſſion, that there is nothing more wanted in the *art* of *healing*, and particularly in treating all *bilious* caſes, than a *vegetable purgative oil*, that will act gently in a ſmall quantity on the bowels, with little or no irritation: theſe qualities the *oleum ricini*, or *caſtor oil*, poſſeſſes in an eminent degree; and tho' it is little known in Europe, yet it has been uſed theſe ſeveral years with great ſucceſs in the Engliſh and French iſlands in America, as will appear from the following obſervations.

I ſhall firſt premiſe a *botanical* deſcription of the plant; after which, I will treat of its oil in a particular manner.

De-

Description *of the* Plant.

The plant from which this oil is extracted is the *ricinus americanus major, caule virescente* H. R. P. the [a] *Nhambu guacu* of *Piso*, and Sir *Hans Sloane*'s [b] *Ricinus americanus fructu racemoso hispido.* The French in the islands call it the greater *palma christi* with *green stalks.* [c] *Mons. du Tertre* and [d] *Pere L' Abbat* mention it under that name in their description of the French Caribbee Islands,

There are four or five sorts of *Ricinus*, that grow in different parts of Africa and America, which have much the same virtues; their seeds are frequently sent into England intermixed with each other. There are two sorts that grow in the warm parts of Europe, and are to be met with in Spain and the island of Crete.

Mr. *Millar* says these plants deserve a place in every curious garden, for the singular beauty of their leaves, especially those sorts that are annual and may be cultivated as all other annual

[a] Vide *Gulielm. Pison* hist. natur. Ind. Lib. iv. c. 31.

[b] Vide history of Jamaica, vol. i. page 126.

[c] Vide histoire des antilles habitees par les Francois, vol. vii. page 103.

[d] Vide nouveau voyage, vol. vii. page 78.

nual plants. He planted the *Ricinus Africanus maximus* near Chelſea; one of the leaves of this plant was upwards of two feet diameter, and the ſtem was as large as a middle-ſiz'd broom-ſtaff, tho' but of one ſummer's growth.

Some imagine the *Ricinus* to be the tree that ſhaded *Jonas* after he was diſcharged from the whale [e].

It

[e] The following anecdote concerning this plant, which is called in Hebrew KIK, is recorded in Gerard's herbal, or univerſal Hiſtory of plants; printed in the year 1633.— *Ricinus* (whereof mention is made in the fourth chapter and ſixth verſe of the prophecy of *Jonas*) was called by the Talmudiſts *kik*, for in the Talmud we read thus, *velo beſchemen kik*, that is in Engliſh, *and not with the oil of* KIK, which oil is called in the Arabian tongue *alkerva*. Moreover a certain rabbin aſks this queſtion, what is *kik?* to which *Reſch Lachiſh* makes anſwer in Ghemara, ſaying, *kik* is nothing elſe but *Jonas his kikaijon*; and that this is true, appears from the Greek name κίκι which the antient *Greek phyſicians* uſed, which Greek word is derived from the Hebrew *kik*, whereby it appears that the old writers long ago called this plant by its true and proper name, but the *old Latin writers* knew it by the name of *cucurbita*, which is evidently demonſtrated by a hiſtory, mentioned by St. *Auſtin* to St. *Jerome*, in theſe words: "The name *kikaijon* is of ſmall moment, yet ſo ſmall a matter lately cauſed a great tumult in Africa, for a certain Biſhop having an occaſion to treat of what is mentioned in the fourth chapter of *Jonas*'s prophecy, (in a ſermon he made in the cathedral church) ſaid that *this plant* was called *cucurbita*, a *gourde*, becauſe it encreaſed ſo hugely in ſo ſhort a time, or, ſaid he, it is called *hedera*: upon the *novelty* and *untruth* of this doctrine the people were greatly offended, and there ſud-

denly

It is called in Latin *Ricinus*, becauſe the ſeed reſembles the animal of that name, which commonly infeſts horſes and black cattle, called *tick*.

It is likewiſe called *Palma Chriſti*, becauſe the leaves reſemble the palm of the hand. It is called by *Dioſcorides*, in Greek, κὶκι ἡ κρότῶν, *a crotonis ſive ricini animalis ſimilitudine quod refert ſemen*. The French ſometimes call this plant the *agnus caſtus*, perhaps on account of the great efficacy of its oil in curing, and in temperating all *febrile* heats, and eſpecially the heats of *venery*; from whence, as I ſuppoſe, the people of St. Chriſtophers, who were formerly blended with the French in that iſland, have, by a corruption of *agnus caſtus*, called it *caſtor oil*.

It is certain this oil was uſed in St. Kitts before it was in any of our other iſlands; what is very ſurpriſing, there is little or nothing ſaid of its medicinal virtues by the gentlemen of the

denly aroſe a *tumult* and *hurly-burly*, inſomuch that the biſhop was obliged to go to the Jews to aſk their judgment concerning the name of this *plant*; and when he had received of them the *true name*, which was *kikaijon*, he made an open recantation and confeſſed his error, and was juſtly accuſed as a falſifier of the holy ſcripture."—Sometimes the Greeks called this plant κρότῶν, (i. e.) *Ricinus*, from its ſimilitude with that inſect.

the faculty reſiding at Barbadoes ; and I have met with two or three ſurgeons from that iſland, who ſeemed not to have known the uſe of it.

This plant grows as tall as a little tree, very beautiful, and expanded into many branches ; the leaves are large, rather round, parted into five, eight, or more ſections, and ſometimes into nine ſharp-pointed or ſerrated diviſions, faſhioned like the leaves of a fig-tree, but rather larger, ſpread or wide open like the hand of a man, and has towards the top a bunch of flowers, cluſtering together ſomething like a bunch of grapes : theſe flowers are ſmall and ſtaminous, growing on the top of the ſtalks ; but on the body of the plant grow bunches of rough triangular huſks, each containing three ſpeckled ſeeds, leſs than horſe-beans (tho' ſometimes as large) ; which, in their brittle ſhells, contain white kernels, of a ſweet, oily, and ſometimes nauſeous taſte. [f]

The

[f] Vide *Gulielm. Piſon* hiſtor. natural & medic. Indiarum, p. 180.—The Arabians call this plant *cherva*, the Italians *cataputia maggiore*, the French *palma chriſti*, the Germans *winderbaum*, the Dutch *wonderboome*, the Engliſh the *caſtor*, *palma chriſti*, or *great ſpurge*.

The *kernel*, from which the oil is extracted, is very acrimonious, and will in ſome conſtitutions work upwards and downwards, in a violent manner; it conſiſts of two very thin membranes or pellicles, one exterior, and the other in the heart of the ſeed; of which if the ſeed be ſtripped, 'tis commonly deemed leſs purgative and emetic by half than it was before, inſomuch that four grains will then be only equal to two.

The uſe of theſe ſeeds is of very antient date in the practice of phyſic: the divine *Hippocrates*, ſome hundred years before the Chriſtian æra, made uſe of them inſtead of the *grana Cnidia*, and ſays they were acrimonious, and ſometimes very violent in their operation.

It is certain the ſeeds in ſubſtance are acrid, and ſhould not be uſed but with caution. It is very remarkable, that all the oils obtained by expreſſion, are conſtantly very mild and lenient, even though the ſubſtances from which they are extracted be in themſelves very acrimonious. *Muſtard-ſeed*, [g] which is ſo acrid that it is even cauſtic, yields by expreſſion an oil as mild as that of *ſweet almonds*; but then

[g] See Monſ. *Macquer*'s elemens de chymie. p. 97.

the

the *kernels*, from which the oils are extracted, muſt not be old, but freſh and ripe, becauſe they become more and more acrid as they grow old, and this acrimony is acquired even in the fruit itſelf.

Matthiolus, 'tis true, and ſome antient phyſicians, attempted to correct the emetic quality of the *ſeeds* of this plant, by *torrefaction*, but were miſtaken; as, on the contrary, they acquired by that means a greater *acrimony*.

Gulielmus Piſo has propoſed a tincture of them, with brandy, as a very ſafe medicine: but as the acrimony of this nut is ſometimes ſo great as to become unſafe, I muſt adviſe it to be taken with caution.

The *leaves* of the *palma chriſti* are commonly uſed abroad, cut in ſmall pieces, boiled with milk, and made into a *poultice*, which becomes very ſuppurative, and will bring boils to a head ſooner than any *plaiſter* or *poultice* I know. The leaves are alſo uſed very often with ſucceſs to dreſs *bliſters*, eſpecially if there be any dread of an approaching mortification; they are alſo of great efficacy ſteeped in vinegar; and will cure the *herpes*, the *itch*, and the *ſcalded head* of children.

Having

Having premiſed thus much, concerning *this plant* in general, its *fruit*, and *leaves*, I muſt now return to the *oil*, which has been found ſo efficacious in all obſtinate conſtipations, and, in fine, is a ſovereign medicine in all *bilious*, *calculous*, and *nephritic complaints*. And here I appeal to all thoſe gentlemen of the faculty, who have practiſed abroad in *warm climates*, ſome of whom are now in England; I likewiſe appeal to the ſurgeons of his majeſty's navy, who have tried this oil in the Leeward Iſlands,—whether they ever found any other than ſalutary effects from the uſe of it in almoſt all caſes where there is an indication for opening the body, eſpecially in warm bilious conſtitutions? 'tis true it does not anſwer ſo well in cold phlegmatic habits of body, as it is a cooling purge, and in thoſe perſons ſometimes apt to cauſe gripings and ſpaſms. I never knew any medicine anſwer ſo well in moſt affections of the bowels, and eſpecially the *colica Pictonum*, commonly called the *dry-belly ache*.

Mr. *Fraſer* very well obſerves, that *Sydenham* and *Baglivi* have both complained in their treatiſes of *bilious cholics*; [h] that tho' they preferred mild purgatives in thoſe caſes, yet theſe com-

[h] See the medical eſſays of London, vol 2.

complaints ſometimes were ſo obſtinate, as to require ſtronger efforts than any of the laxative kind could effect; and conſequently they were obliged, in ſpite of themſelves, to recur to *pilæ cochiæ* and other *draſtics:* this oil would certainly anſwer their intentions in every reſpect.

Tho' it is the moſt efficacious medicine in removing the moſt obſtinate complaints of the *dry belly-ache*, and the *iliac paſſion*, (two of the moſt excruciating diſorders that human nature is liable to) yet it is ſo innocent in its operation, that I have often known it given with ſucceſs to infants, a tea-ſpoon-full the day after their birth, in order to lubricate the paſſages, and expel the *meconium*.

Mr. *Brown*, a gentleman of fortune, of the iſland of St. Chriſtopher's, often uſed it inſtead of olive oil, in his ſallad of an evening, it procuring him one or two ſtools, which he told me was always of great ſervice to him and kept him cool in the *gout* and *calculus*, both which diſorders he had in a violent manner.

This oil—which we may now call either *oleum ricini*, *oleum palmæ chriſti*, *oil of kik* from

 the

the Hebrew, *agnus caſtus*, or *caſtor oil*—this oil, I ſay, I have given with ſucceſs in *dyſenteries*, or *bloody fluxes*.

It is ſometimes diſputed whether mild oils, ſuch as oil of ſweet almonds, bind or relax the body; becauſe, if they are taken in a *dyſentery*, they bind, but in *hypochondriacal affections* relax.—But if we conſider, that the cauſe of a *dyſentery* is ſomething acrid, vellicating the fibres of the inteſtines, and that the property of mild oils conſiſts in obtunding acrids, by ſheathing them, we ſhall eaſily perceive they muſt be of ſervice in a *dyſentery*; but in *hypochondriacal affections* the paſſages of the inteſtines are dry and criſp, and their ſurfaces unequal and rough; hence mild oils being applied to them, take away their criſpneſs and corrugation, by lubricating and then relaxing them.

The uſe of this lubricating oil is moſt beneficial to thoſe bodies that are dry, hot, *atrabilious*, troubled with the *piles*, and that enjoy a plentiful perſpiration; for theſe will be purged with oily medicines, when the ſtrongeſt draſtics will have no effect; for if we conſult all the Italian eminent phyſicians who have written on *bilious cholics*, ſuch as *Baglivi*, *Bellini*, &c. they are the moſt averſe, in all

all theſe caſes, to acrid purges, and only order oil of ſweet almonds, and other oily draughts, which immediately perform their *effect*, whilſt *draſtics* only cauſe anxieties, ſweats, and vomitings, without any purgation.

I have often found this oil of the greateſt efficacy in *clyſters*; and in outward application, by only rubbing the navel and hypochondria in children, when I could not get them to take any thing inwardly, which is often the caſe in infants, this embrocation alone has often produced one or two phyſical ſtools.

The *caſtor oil* given in ſmall draughts, or by way of clyſter or embrocation, is an excellent and wonderful *vermifuge*: nay the very ſmell and fume of this oil will purge ſome delicate and weak children; the active part of ſome purges being very volatile: this likewiſe appears from *aloes*, the fume of which will purge ſome delicate frames; but when its ſubtile parts are flown off, that which remains is quite unactive; the cathartic part of a *purge*, according to *Boerhaave*'s obſervations, being the leaſt with regard to the whole bulk: as appears evidently from *euphorbium* and *coloquintida*, which

being diſſolved in water, and gently evaporated, become unactive maſſes; whereas the part evaporated was very ſmall, and ſcarce perceptible.

The Indians in Braſil, I am told, take an orange or lemon, and keep it macerating for a month together in this oil and the *oleum coloquintidos*, mixed together; and by rubbing it ſtrong in the hands, till they become warm, by applying the lemon to the noſe, its odour will immediately cauſe a ſtool: but this I believe, muſt be meant of the *oleum ricinoides*, or *phyſic nut*, or rather the *oleum granorum tigli*, which are much ſtronger than the *oleum palmæ chriſti*.

Preparation *of the* Oil.

This oil is prepared in two different manners: firſt, by decoction, in boiling water; ſecondly, by expreſſion, which is counted the preferable method, tho' a greater quantity of oil is acquired by the former.

In order to prepare it by decoction, you muſt gather the ſeeds when ripe, ſtrip them of their huſks, pound them in a marble mortar, and tie them up in a linen cloth; put this packet into

into a pan, with ſeven or eight times as much water, and make the water boil; the oil will be ſeparated by the ebullition, and float on the ſurface of the water; ſkim it off carefully with a ladle, and continue boiling till no more oil appears.

By this method a much greater quantity of oil will be obtained, than by *expreſſion* alone, becauſe the degree of heat applied greatly facilitates the ſeparation of the oil; for a convincing proof of this truth, take the remains of the ſeeds, from which the oil has been ſo thoroughly expreſſed that they would yield no more, boil them in this manner, and you'll obtain a great deal more oil.

This way of obtaining the *caſtor oil* is not ſo much eſteemed in general, as that by *expreſſion*; becauſe the heat which the ſeeds are expoſed to in the operation, occaſions their being leſs mild than they naturally are, and more liable to become rancid.

In order to *expreſs* this oil, you muſt pound in a marble mortar, or grind in a mill, the kernels; tie up this maſs, thus prepared, in a ſtrong, thick, new canvas

bag, and put it into a preſs, between two iron plates; ſqueeze it ſtrongly, and you'll ſee the oil run out in ſtreams into the receiving veſſel.

It is very remarkable, as I obſerved before, that oils, thus expreſſed, let the ſubſtances from which they are extracted be ever ſo acrimonious, are mild and lenient. [x] Bitter and ſweet almonds produce the ſelf-ſame ſoft oil; and the *oil* of *muſtard-ſeed* is equally as mild, tho' the ſeeds are ſo acrid as to raiſe bliſters, and are even cauſtic. [y] Dr. *James*, in his new Engliſh diſpenſatory, ſays, the *oil* of *muſtard*, by expreſſion, is preſcribed with ſucceſs in the ſevereſt fits of the *ſtone*: but *this oil* is more mild, and by no means like *oil* of *muſtard-ſeed*, which is procured by diſtillation, and which is extremely acrid and igneous. The expreſſed oil of the Weſt-India *thiſtle-ſeed*, is very lenient and mild; tho' the ſeeds bruiſed, and taken a thimble-full, will vomit and purge ſeveral times, and are counted abroad, and really are, a ſpecific in *dyſenteries*.

Medicines

x See Monſ. *Macquer*'s elements of chymiſtry, p. 97.

y See Dr. *James*'s new diſpenſatory, p. 443.

Medicines of the *purgative tribe* are commonly, by the beſt authors, divided into two claſſes; the *draſtic*, and *eccoprotic*: the former act by a very powerful ſtimulus, and, by greatly irritating the inteſtinal coats, very often cauſe ſuch pains as bring on *convulſions*, *diarrhœas*, *dyſenteries*, &c. inſomuch that the celebrated *Hoffman* [t] ſays, they ſhould be diſcarded the practice of *phyſic*, except in caſes of the utmoſt neceſſity, where a mild method ſtands no chance of ſucceeding.

There are, properly ſpeaking, two kinds of *eccoprotics*; one of which does not diſturb the body in its operation, and expels little or nothing from it; ſuch as all recent oils, freſhly extracted from *animals*, and ſome from *vegetables*, as *olives* and *almonds*. The ſecond claſs of *eccoprotics* are now called lenitives, and formerly by the antients *minoratives*; that is, which do not draw out a quantity of the *fæces* to be expelled, at once, but by degrees. To this claſs, therefore, belong all *medicines* whatever, that are able to ſtir the villi of the ſtomach into *excretory motions*: but this ought to be done without much diſturbance to the reſt of the

 body;

[t] See *Hoffman*'s diſſertatio de purgantibus fortioribus e praxi medica merito ejiciendis.

body; yet, as *Boerhaave* and his learned commentator obſerve, it is abſolutely neceſſary that theſe medicines be thick and ſomething acrid, otherwiſe they will never become purgative. The *oleum ricini* we are treating of, has both theſe qualities; for it lubricates, gently ſtimulating the *inteſtines* to perform their offices, and its thickneſs hinders it often from paſſing the lacteal veſſels: this we ſee in whey, which by the thinneſs and lightneſs of its particles will paſs the lacteals; and, inſtead of opening the body, will become a *ſudorific*, or *diuretic*.

The USE *and* DOSE *of* this OIL.

I commonly preſcribe from two to three or four ſpoons-full of this oil to adults, in two ſpoons-full of *pepper-mint* water, or the *tinct. ſtomachica* of the *London diſpenſatory*.

Sometimes I make a *potio alba*, by mixing two or three ſpoons-full with a ſufficient quantity of the *yolk of eggs*, to incorporate it thoroughly, and then add two ounces of ſimple and two or three drachms of compound *pepper-mint water*. To children I order it by way of an *oleoſaccharum*, or mixt with *honey*.

Tho' this oil will keep a good while; yet, *like all other oils by expreſſion*, it is apt by age and heat to become rancid.

My ingenious friend, Mr. *Renaudet*, ſurgeon, at Briſtol Hotwells, who has uſed for ſeveral years the *caſtor oil* with great ſucceſs in North-America, and on board his majeſty's navy, tells me, that he has often depurated this oil, and prevented its rancidity, by putting a quart of it into about half a gallon of pure cold water, and whipping it as women do ſyllabubs; by which means the ſalts and groſſer feculent matter either fell to the bottom, or were blended in the menſtruum, and the oil floated on top, which he carefully ſcummed off; and repeated the proceſs a ſecond time, which was well worth his trouble, as he often found by experience. I am likewiſe told, that a little ſalt will depurate this oil; which I have not tried.

As I have found this ſurpriſing medicine in a very particular manner ſerviceable, and preferable to all other purges, in the following *diſorders*; I'll make a ſhort abſtract of my obſervations in thoſe complaints.

1ſt—In the *colica pictonum*, or *dry-belly ache*.

2dly—In *moſt fevers*, where there is any indication for cooling and opening the body.

3dly—In all *bilious complaints*.

4thly—In the *apthæ chronicæ*, or *thruſh*.

5thly—In the *tetanus*, or *cramp*.

6thly—In the *gonorrhœa*, *fluor albus*, and *ſome other complaints*.

Of the COLICA PICTONUM, *or* DRY BELLY-ACHE.

IT is univerſally allowed, by all the authors who have wrote on this diſorder, particularly the moderns, ſuch as *Huxham*, *de Haen*, *Tronchin*, and *Thierry*, who have given us their practical obſervations on it, made in very different countries and climates, that whatever the cauſes of it may be, which they very accurately deſcribed, keeping the body open is one of the main indications of cure, in order to give a free paſſage to the noxious and irritating matter contained in the *inteſtinal canal*; which alone is the true cauſe of all the diſmal ſymptoms that attend this dangerous diſorder: but then the method for obtaining this end is attended with great difficulty; ſharp, rough draſtic purges, are condemned by all with great juſtice, as they add irritation to irritation, and draw the *inteſtines* into ſpaſmodic contractions, which muſt neceſſarily defeat the intention they are given for; as theſe contractions will ſtop the natural ſpiral motion of the *inteſtines*, and

and conſequently the expulſion of the irritating cauſe, with the addition of excruciating pain; which, beyond all doubt, will put the patient's life into immediate danger.

Eccoprotics, given in ſuch quantity and form as may ſeem to anſwer the intention beſt, will not frequently ſtay on the ſtomach, but be rejected as ſoon almoſt as they are given, on account of the great load and quantity of theſe mild medicines required to be taken, in order to render them *purgative*; by which means the ſymptoms are again exaſperated, and the *vis vitæ* or ſtrength leſſened; which is a moſt material conſideration, as weakening the powers of nature here is deſtroying every ſalutary intention, becauſe it is by theſe powers we muſt expect a recovery, and deſtroying or leſſening them is taking away our bulwark, and foundation of all hopes.

From this conſideration it is, that the beforementioned gentlemen, of diſtinguiſhed abilities in their profeſſion, are ſo cautious in regard to bleeding in this complaint, and are far from recommending it; ſo diſtant is the true genius of this diſorder from an *inflammatory diſpoſition*, except ſuch may be brought on by imprudent treatment.

REMARK *the First.*

In regard to gentle laxatives, all thoſe who have had the *cholic* of *Madrid*, under the care of Doctor *Thierry*, who at that time reſided there, not one had ſo imperfect a recovery, as to be paralytic, or even weak in the limbs after the fit.

Now by taking a view of this gentleman's practice, which he candidly and minutely exhibits for the ſake of young practitioners, we find his chiefeſt ſtreſs, in the medicinal treatment of this diſorder, and I may ſay his *ſheet-anchor*, to be an openneſs of body.

REMARK *the Second.*

No *palſy* was the conſequence in ſuch a number of afflicted people; therefore no more material indications can occur than that of keeping the body open, eſpecially in the beginning, becauſe fulfilling properly that indication not only removed the complaint, but alſo prevented the *paralytic indiſpoſition* it generally leaves after it; which all obſervations confirm.

REMARK

Remark *the Third.*

It is not ſurprizing that Doctor *Thierry*, [i] who found ſo much ſucceſs from *laxatives*, in his practice, ſhould be ſo fond of overlooking the immediate cauſe of this diſorder in acting on the inward coat of the inteſtines, introduced there by what we eat, drink, or let down with the ſaliva, as to eſtabliſh the different changes in the *air*, ſuch as heat, cold, dryneſs, moiſture, ſharp winds, all governed in a great meaſure by the reſpective ſituation of places, as the moſt general cauſes of this diſorder; alledging the inclemency of the air, the ſeaſon preceding the memorable *cholic* of *Poïtoü*, and that the people had incautiouſly left off the furred linings of their cloaths too ſoon.

I would willingly aſk the doctor, why theſe changes of the air affected the bowels of ſuch a multitude of people at the ſame time, and no other part of the body?— ſurely the lungs lay more particularly expoſed to the conſequences of ſuch changes, than many other parts; and yet he gives us no account of the then reigning *peripneumonies*, *pleuriſies*, *opthalmias*, *catarrhal fevers*, *dy-*

[i] See les obſervationes de Monſ. *Thierry* docteur regent de la facultè de la medecine de Paris, ſur la colique de Madrid & ſes environs.

ſenteries, and other *inflammatory complaints*, which are the uſual conſequences of ſuch changes of the air.

Had the doctor attended to the diſſertation on the *cholic* of *Devonſhire*, by the deſervedly admired Dr. *Huxham* of Plymouth, he would have found the rough, ſour, or *unfermented cyder* [k] of that country, to be the cauſe of that *cholic* he deſcribes; he would have found that *that* great man, ſo well acquainted with air, its variations, and effects, never had recourſe to it to explain the cauſe of this *endemial cholic*; in ſhort, he would have found, that this gentleman (whoſe treatiſe on the air, and the diſorders moſtly depending on its various conſtitutions, will be a never-failing monument of accuracy and *Hippocratical judgment*, grounded on principles of true theory) knew too well its inſufficiency, to eſtabliſh it as the general cauſe of *this diſeaſe*.

Never-

[k] New rum, and a great quantity of freſh and unripe lemon and lime juice, made into punch, ſeem commonly to be the cauſes of this diſorder in the Weſt-Indies; as diſtillers of rum, boilers of ſugar, and overſeers, are chiefly ſubject to it: the firſt, (who are generally of the poorer ſort) from immoderately drinking new hot rum; the ſecond and third, from taking cold after ſweating in hot boiling-houſes, and drinking very ſtrong punch made with freſh limes and newly-diſtilled rum.

Nevertheleſs, tho' this diſorder is not *epidemical*, yet it may ſometimes be *endemial*, and proceed from damp weather in rainy ſeaſons; which, ſtopping the inſenſible perſpiration, may cauſe all thoſe terrible ſymptoms attending the *dry belly-ache*: but this is not to be attributed to any deleterious particles in the air cauſing this diſorder.

Remark *the Fourth.*

The learned and *methodical* writer on this ſubject, Dr. *Tronchin*, [1] has clearly ſhewn the anatomical diſtribution of the eight pair of nerves thro' the *inteſtines*, forming their different *plexus's*, particularly the *plexus meſentericus*, and the communication of theſe nerves with thoſe parts *paralytically* affected in this diſorder; from which the true cauſe of the *palſy* attending the complaint, and the true method of cure in general, (I mean by an openneſs of body, ſupported without irritation) will appear to a conviction. The whole human frame muſt ſuffer *convulſive ſpaſms*, whenever the *meſeraic nervous plexus* is irritated: this is evidently confirmed and demonſtrated by *Webſer*'s admirable obſervations concerning the

[1] His diſſertation on the *cholica pictonum* was lately tranſlated by Dr. *Schomberg* of Bath.

the *conſent of nerves*, and the *convulſions* which infants newly born are ſubject to, from an acid contained in their ſtomachs and bowels.

Remark *the Fifth.*

The learned Dr. de *Haen*, [m] of Vienna, who has had a very great opportunity of ſeeing vaſt numbers labouring under the worſe kind of this diſorder, confirms the doctrine of *laxatives:* I ſay the worſe kind, becauſe it was the effect of *poiſonous effluvia* on the poor working people in the *mines* near Vienna and other parts of Germany. It is true, indeed, he adds greatly to this method of treatment by obtunding the acrimony, and inviſcating the *poiſonous* and *deleterious* particles with *mucilaginous* and *oily* ſubſtances; by which he guards the tender fibres of the ſtomach and bowels from their *deleterious* influence: a remarkable inſtance of his preſerving the lives of ſo many *miners* appears by his recommending that they ſhould eat *freſh lard* and *brown bread* before they went into the *mines*. Since this method has been practiſed, he ſays not one in ten of them is now brought to the

 hoſpi-

[m] Dr. *Anton. de Haen* ratio medendi in noſocomio Vindobonenſi in articulo de colica pictonum.

hoſpitals for cure; tho' before not one in fifty eſcaped; to the great detriment of thoſe concerned in the *mines*, and the public in general; which, before, were obliged to ſupport ſo many poor widows and orphans. This phyſician's doctrine is elegant and ſound, his practice bold and maſterly, and not to be exceeded by any that ever wrote on this ſubject.

Whatever is the proximate cauſe of this terrible diſeaſe, Dr. *Tronchin* very well obſerves, it produces many remote ones, which, upon a cloſe attention to the diſorder, he reduces to the following:

1ſt—To the *remains of a fever*, carried off by an *imperfect criſis*, or *not well cured*. [n]

2dly—To *poiſons*.

3dly—To the *too free uſe of wine*, or of *acid auſtere fermented liquors*, or of *unripe acid fruits*.

4thly—To the *gout* or *rheumatiſm*.

5thly—To an *obſtructed perſpiration*.

6thly

[n] See a treatiſe on the *colica pictonum*, by Dr. *Tronchin*, and tranſlated by Dr. *Schomberg*; with notes.

6thly—To the *ſcurvy*.

7thly—To *melancholy*.

8thly and laſtly—To the *paſſions of the mind*.

Now let the remote cauſes be what they will, the proximate and primary indication of cure is to open the body firſt by an emollient *clyſter*, with two or three ounces of the *oleum ricini*, or the following, which I commonly uſe:

℞. Decoct. comm. pro clyſter. *uncias* viii.
Ol. Ricin. *uncias* iii.
Sapon. nigri *unciam* ſs.
Vin. Antimonial. turb. *drachmas* vi.
Aſæfœtid. (v. g. ſolut.) *drachmas* iii.
M. f. Enema ſtatim injiciendum & pro re natâ ſing. noctib. repetend.

After which I give a table-ſpoon-full of the oil, either with *pepper-mint water* or the *tinct. ſtomachica*, and repeat it every hour, or half hour, occaſionally, till it produces a ſtool, which the fourth ſpoon-full moſt frequently effects; that is to ſay, if it remains upon the ſtomach; but if the ſtomach is nauſeating, and will not keep it, two ounces of the infuſion of

ipecacuahna, drawn from a tea-pot with boiling water, (i. e. two drachms of the powder of *ipecacuanha* being allowed to a pint of hot water and ſtrained) will ſufficiently cleanſe the ſtomach; this will act without much ſtraining, and better than the *powder* or *tincture*. After the ſtomach is thus ſettled with one or two pukes, the oil will then commonly perform all that can be expected, and eaſe the patient in three or four hours from the moſt excruciating pains; nevertheleſs, ſometimes, this ſickneſs of ſtomach, in ſpite of all that can be done, is very violent and laſting; in that caſe I commonly order a neutral ſaline draught, with ſimple and compound mint water, in *actu* [u] *fermentationis ſumendus*; if this does not anſwer, I repeat the ſame draught with a ſmall *pill* of one grain and a half of *extractum thebaicum*, to be repeated occaſionally with the draught according to the violence of the pains; this ſeldom fails preparing the ſtomach for the reception of the oil; which, as I obſerved before, after the fourth ſpoon-full will begin to operate, and find a paſſage; this is by all means to be kept open for ſome time, for otherwiſe the belly would be ſoon bound

[u] See Dr. *Barry* on the three different digeſtions and diſcharges of the human body, page 50.

bound up again, and moſt ſevere griping pains would moſt certainly ſoon ſucceed, on account of the ſharp humours continually falling on the inteſtines. This is to be done with the following *potio alba*, compoſed of a ſmallar quantity of the *oleum ricini*, and to be repeated every ſix hours:

℞. Aq. Menth. ſimpl. *ſeſquiunciam.*
Ol. Ricin. (v. g. ſolut.) *drachmas* ii.
Aq. Menth. ſpir. *drachmas* iii.
Syr. Alth. *drachmam* i.
M. f. hauſt 6a. quâq. hora repetend.

In the mean time the following, or the like *anodyne bolus*, is to be freely given, in order to take off the exceſſive pains, which are vaſtly apt to return, unleſs prevented by repeated uſe of *opium* and *camphire*. [s]

℞. Valerian. Sylv. p. *ſcrupulum* i.
Caſt. Ruſſienſ. *gr.* v.
Extract. Thebaic. *gr.* i. ſyr.
E mecon. qs. m. f. bolus pro re natâ ſumend.

The quantity of the opiate cannot, however, be abſolutely aſcertained, as ſome patients can bear much greater doſes than others.

[s] As there ſeems to be here a convulſive conſtriction chiefly in the *ileon*, *anodynes* mixt with *anti-hyſterics* will always be the likelieſt means of relief.

To prevent coſtiveneſs, which theſe opiates are apt to cauſe, the *clyſters* muſt be occaſionally repeated.

If the patient complains of loſs of ſight, great weakneſs of the loins, or a tingling uneaſy ſenſation thro' the whole ſubſtance of the *medullæ ſpinalis*, I repeat the clyſter before deſcribed, and order bliſters to the *thighs* and *arms*, and *ſinapiſms* to the ſoles of the feet, to be renewed every ſix hours; and the following or ſome ſuch volatile liniment:

℞. Spir. Volat. Ammon. *unciam* i.
Camp. in ſ. v. ſ. *drachmas* iii.
Liniment. vol. *drachmas* vi.
Ung. Nervin. *unciam* ſs.
Piſſelæi Indic.
Ol. Palm. Chriſt. aa *unciam* i.
Balſ. Peruvian. *uncias* ii. m.

F. Linimentum quo illinatur dorſum & ſpina dorſalis poſt frictiones.

At the ſame time the *Barbadoes tar* is likewiſe to be taken inwardly, as there is nothing more likely to prevent the *paralyſis* ſo often attending this diſorder.

When the body is once open, there is no more danger of any bad ſymptoms; it muſt there-

therefore be kept ſo by the oil, or ſometimes (in order to diverſify and pleaſe the patient's palate) by the following linctus :

℞. Ol. Amygd. d. ſyr. roſ. ſolut. aa *unciam* i.
Tart. ſolub. *drachmas* ii.
M. f. Linctus, ſum. Cochl. i ſubinde.

During the whole time of the paroxyſm, emollient embrocations, conſiſting of *this oil*, *ſpirits of wine*, and *balſam of peru*, muſt be often repeated, and cloths dipped in the ſame applied and bound tightly round the whole abdomen ; this will be found of great uſe, eſpecially if oily draughts and emulſions be conſtantly and at the ſame time uſed, and bladders filled with warm water be applied occaſionally to the abdomen.

After the *cholical* and *rheumatic* pains ceaſe, the patient muſt be very cautious in regard to his diet ; for this complaint is very apt to return by the ſmalleſt error in this reſpect.

For drink, nothing ſhould be given but *Bath* or ſome proper *chalybeate water*, with now and then two or three ſpoons-full of ſome generous wine. Every thing that is *flatulent* and *windy* is hurtful in this diſeaſe. Stomachics, and *Huxham*'s *tincture* of the *bark*, will now become very proper : frictions and riding to be

abſolutely inſiſted on, as the greateſt preſervatives againſt relapſes. Balſam of Peru, taken from ten to twenty drops every ſix hours, will here likewiſe be of excellent ſervice, as alſo ſea voyages.

This is the method I have always found moſt ſucceſsful during the paroxyſm of this diſorder. After the fit is over, then (and not till then) the prudent and ſagacious phyſician will have an eye to the remote cauſes beforementioned, and inveſtigate every ſymptom, in order to find out and adapt his cure accordingly, to prevent relapſes. After which, *bathing*, and drinking the *Bath waters*, with prudence, will be of excellent ſervice: as *bathing*, even in the fit and paroxyſm of this diſorder, has often proved very ſucceſsful.

I have ſeen terrible conſequences from the bad treatment of this complaint by *medicaſters* and *pretenders* to *phyſic*[t]; who, ſometimes, I have known order hot draſtic purges, and even crude mercury in great quantities. Theſe *gentlemen*, who often practiſe by rote, and play with the lives of mankind, are ſeriouſly adviſed by the learned Dr. *Huxham* to peruſe now and then the ſixth commandment.

Of

[t] Quorum ſtultitia quæſtus impudentiæ eſt. *Phædr.*

Of FEVERS.

SYDENHAM, in writing of *fevers*, ſays, that diſorders in general, and *fevers* in particular, are nothing elſe but a ſtruggle of nature, endeavouring by all the means in her power to exterminate the morbific matter, for the recovery of the patient: now it is univerſally allowed, that there is no *fever* cured but by ſome conſiderable evacuation, either procured by nature or by art; but, of all evacuations and ſolutions of diſorders, the moſt deſirable is, firſt by ſweat, ſecondly by ſtool and urine.

Hippocrates, the father of [a] phyſic, ſays, thoſe things that are to be carried off, are to be drawn to the parts they moſt incline to, thro' ſuch ways and places as are fitteſt for their conveyance and expulſion. If nature is not able to expel the congeſted humours, then the art of the *phyſician* is required, to aſſiſt her that way by which ſhe inclines to unburthen herſelf, either

[a] Vide *Hippocrat.* Aphor. 21.

ther by *ſweat*, *ſtool*, or *urine* ; for every evacuation is not equally ſuitable to all perſons, on account of the difference of conſtitutions and diſeaſes : tho' we obſerve *evacuations* thro' all or moſt of the emunctories are ſometimes neceſſary, as is experienced in *malignant fevers* [b].

Now, when there is an indication for ſtools, I maintain there is not, in the whole *materia medica*, a medicine equal to this *oleum ricini*, both for its opening and cooling qualities. I ſay in *moſt fevers* ; for I have found, by experience, it will not anſwer in *low nervous fevers*, even by way of *clyſter*, on account, as I imagine, of its *cooling* and *refrigerating* quality.

As for *ardent* and *inflammatory fevers* and *complaints*, I have often ſeen it ſucceed when *nitrous medicines* and *James*'s *powders* have failed ; giving twice a week or oftener, *pro re natâ*, two ſpoonfuls of the *oil* and now and then occaſionally three or four ſpoonfuls of the *caſtor emulſion*, every ſix or eight hours : which is made like common *emulſion*, with ſix or eight almonds and one *caſtor* nut, ſtript of its pellicle, and boiled in a pint of water.—This emulſion is moſt frequently made uſe of by the French in

[b] See Dr. *Mead*'s monita practica,

in the iſlands, tho' it is ſometimes apt both to purge and vomit; which I think proves the acrimony of *this nut* to conſiſt entirely in its eſſential ſalt, and by no means in its oil. I never knew the oil to vomit, tho' given to four ſpoons-full; and here an exceeding ſmall quantity of the ſalt, diſſolved in an aqueous *menſtruum*, is apt to have from its *acrimony* an *emetic* quality.

I have a ſervant, who ſome months ago was taken with the worſt ſymptoms of an *ardent* and *inflammatory fever* and *ſore throat:* there were ſtrong reaſons to ſuſpect that this pain in the throat was of a *gouty* nature; for one night he had a pain in his great toe, during which the other greatly abated. As he had been for two or three days without a ſtool, I gave him two ſpoons-full of the *oleum Ricini*, in a little *pepper-mint water* (as I always have ſome of this oil by me, myſelf and family never taking any other purging phyſic); this gave him four ſtools, and the next morning his fever left him; and he had a regular fit of the *gout*, that laſted ten days; which he had not for many years before.

I have even ſeen cured the worſt of all kind of fevers, I mean the *bilious yellow fever* of

of the Weſt-Indies, by this ſimple method; firſt exhibiting an *emetic*, according to the indication; then *this oil* and *emulſion* occaſionally; at the ſame time diluting *acids*, eſpecially in the commencement of the diſorder, are of great ſervice, as the blood from the beginning is full of *putrid alkaline* [c] ſalts.

I don't doubt but the judicious and learned of the profeſſion will approve of this ſimple method of treating this terrible diſorder, when they conſider that the chief and principal ſeat of this fever is in the right *hypochondrium*, where the *liver* and *biliary ducts* are ſituated, and that the *bile* of all the humours of the human body is the moſt *putreſcent*, and that this degree of *acrimony* is heightened by the heat of the climate: thus the *bile*, in this exalted ſtate, gets into the blood, brings the whole maſs into a putrid and almoſt *gangrenous* ſtate; will cauſe a deep yellowneſs all over the body, and ſometimes livid ſpots and *mortifications* in various parts. All theſe complaints ariſe from the great acrimony of the *bile* in its moſt exalted ſtate; therefore, the chief indication of cure always appeared to me to conſiſt in evacuating and

[c] Tho' the *bile* is not abſolutely *alkaline*, I think it is allowed that it is *alkaleſcent*, and of the nature of an *alkali*.

and carrying off the putrid, *bilious humours*, by gentle *vomits*, *laxative purges*, and *antiſeptics*, ſuch as all vegetable acids, *nitrous medicines*, and the *decoctum ſerpentariæ*, occaſionally.

I have always been of opinion, that the more ſimple the method of treating *fevers* in general, the more agreeable to the practice of *Hippocrates* and all the antients, who always inſiſted on the regulation of diet in *fevers*, and expected the greateſt part of the cure from a ſtrict obſervation in this point; the thinneſt aliment, ſuch as *ptiſan*, with *barley* and *hydromel*, were what they chiefly ordered. And, as Dr. *Towne* [d] very well obſerves, was *Hippocrates* to ſee ſome of the modiſh mixtures and cordials, which are now-a-days preſcribed by ſome in fevers, in defiance of all his ſkill in phyſic, he would be at a loſs to gueſs at the diſorder.

Dr. *Sutherland*, in his analyſis of *Bath* and *Briſtol waters*, obſerves, that the origins of diſeaſes are not ſo complex as commonly believed; neither is the method of cure. He takes notice that *Boerhaave* (in his *prælectiones academicæ*)

[d] See Dr. *Towne*, on the diſeaſes moſt frequent in the Weſt-Indies.

micæ) was wont to obſerve, [c] there were many who deſpiſed the practice of the *antients*, becauſe in diſeaſes differing in their ſymptoms they applied the ſame or ſimilar remedies: they think themſelves well uſed if they meet with *doctors*, who ranſack diſpenſatories; changing, compounding, and re-compounding, every hour; while far more ſurely and ſooner they empty the pocket than the diſeaſe, *dum longe certius crumenam exhauriunt quam morbum.* Let thoſe who deſpiſe ſimplicity of practice conſider how many, and how different diſeaſes, in all ages, and all countries of the world, have been cured by the uſe of *baths* and *mineral waters*, of all ſorts and denominations; and cured too by theſe waters *alone*, only firſt preparing the body for the ſame.

In all *fevers*, eſpecially in *hot climates*, the diet ſhould be cooling and moiſtening; air ſhould be admitted into the chamber, ſo as to circulate thro' one or two adjoining apartments; the room ſprinkled with vinegar, roſe-water, and cooling herbs; the common drink warm *lemonade*, which has often occaſioned a *diaphoreſis* when all the unnatural attempts by *alexipharmics* and *cordials* have ſerved

[c] See virtues and analyſis of Bath and Briſtol waters.

ſerved only to aggravate the heat, and inflame the blood.

Beſides the *yellow fever* there comes very properly, under this head, a *particular claſs* of *fevers* ſo well deſcribed by *Heiſler* [f] in his *compendium medicinæ practicæ.*

Theſe *fevers* are very common in Europe and the Weſt-Indies, and deſerve our attention in this place, as the *caſtor oil* anſwers almoſt every intention of cure in this complaint.

Thoſe that are ſeized with this fever have commonly the following ſymptoms: firſt, *horripilations* at different times; ſecondly, the *tongue*, *teeth*, and *throat*, are filled with a viſcid and glutinous *pituita*; the patient's *breath* becomes ſometimes both offenſive to himſelf and by-ſtanders; thirdly, there is a gentle looſeneſs attending, with a moſt offenſive ſmell of the *excrements*, throughout the whole diſorder; fourthly, the *hypochondria* are tenſe and ſometimes painful (no doubt from the great quantity of noxious humours contained in

[f] Vide *Heiſler* compendium medicinæ practic. de febribus acutis ſtomachicis & inteſtinalibus.

in the *ſtomach* and *inteſtines)*; fifthly, frequent *frights and terrors* in their ſleep, ſometimes even when awake; this, *Heiſter* ſays, is a certain ſign that the cauſe of this fever is in the *inteſtines*; ſixthly, pains commonly in the *head* and *neck*, from *ſpaſms*; ſeventhly, the *urine*, at firſt like natural *urine*, (the cauſe of the diſorder being not yet in the *blood)* in the progreſs of the diſeaſe becomes *turbid*, and depoſes a *muddy ſediment*.

Now it is univerſally allowed, that it is a very dangerous practice to ſtop the *looſeneſs* attending this *fever*, as the noxious humours that ought to be evacuated, would by that means be retained; therefore vomits and gentle purgatives will, in this caſe, anſwer every intention of cure. Repeated experiments daily convince us thoroughly of the truth and juſtneſs of Dr. *Sydenham*'s obſervation, when he ſays, "vomitu peracto ſæva "illa ſymptomata (nauſea v. g. & anxietas & "jactationes, ſuſpiria luctuoſa, nigredo linguæ, "&c.) quæ & ipſos ægros excruciarunt & "aſtantes perterrifecerant, mitigari ſolent ac "ſolvi, quodque morbi reliquum eſt, bene "tolerari."—After which puke the *oleum Ricini* internally, and by way of clyſter, will anſwer better

better than any other lenitive purge; as I have found by repeated trials.

It may, perhaps, here be aſked, what this oil can perform better than *manna*, and other *eccoprotics*, which are uſed in theſe and ſimilar complaints? to which I anſwer, firſt, it will *purge briſker*, without irritation, in a ſmaller quantity, and is more likely to remain upon the ſtomach; ſecondly, it is *more cooling*, and more efficacious in temperating all febrile heats; thirdly, it corrects and obtunds the acrimony of the *bile*, better than any medicine I know; fourthly, it helps to diſſolve, (as I imagine, and will endeavour to prove in the chapter on *nephritic complaints*) all *bilious* and *calculous concretions*. I believe, it will never be aſſerted that *manna*, or any other *lenitive*, is poſſeſt of all theſe qualities.

Of BILIOUS DISORDERS in GENERAL.

IT is not expected that I ſhould here give a treatiſe of *bilious diſorders*, (that itſelf would require a large volume) but I will endeavour to draw a few practical inferences from the theory and obſervations of Doctor *Boerhaave*, his learned commentator, and Doctor *Mead*, in order to ſupport ſome [y] practical and *medical* facts and obſervations which I have made in applying this oil to *bilious* caſes.

1ſt, The *bile*, by its ſtimulating quality, as it is the moſt acrimonious of all the animal fluids, it, no doubt, helps to excite the periſtaltic motion of the *inteſtines*, and hereby promotes concoction; and, as it is purgative like *aloes*, which it greatly reſembles, it helps the expulſion of the *fæces*.

My

[y] See *Mead* monita practica, page 122.

My Lord *Bacon* very properly ſays, that the *bile* is *multarum in corpore functionum cos & ſtimulus*, that is, the *bile* is the *whet-ſtone* and ſtimulus of many functions in the human body.

Its great utility is evinced by the extraordiry apparatus which nature uſes for its preparation: we do not find in the whole animal *œconomy* a ſtructure of parts like the veſſels framed by nature for the ſeparating and perfecting this natural ſope: nature here, and no where elſe, as *Haller*, *Fleming*, and all *phyſiologiſts* agree, faſhions and forms a venous ſyſtem into an arterial one.

This natural *ſope* is a mixture of oil, water, and ſalt, both *volatile* and fixt, ſeparated from the blood and the liver for the different uſes of animal life; and, as the blood itſelf is very often vitiated and liable to many changes, no wonder that this fluid, which is ſeparated from it, ſhould be ſubject to many alterations, and be rendered unfit, very often, to perform its office.

I ſhall juſt touch briefly, in Dr. *Mead*'s owns words, [x] on the ways by which the *bile*

[x] See *Mead* monita practica articul. de ictero.

may become vitiated; after which I will give a hint of the efficacy of this *oleum palmæ chriſti*, in mitigating and removing theſe *bilious* complaints.

I uſe this gentleman's words, in order to confirm, by ſo great an authority, this doctrine of *oily* and *emollient* medicines, and eſpecially this of the *oleum ricini*.

This ingenious phyſician ſays, in his *præcepta medica*, " that the *bile* is often rendered " faulty by its lentor and viſcidity, and ſome- " times by its exceſſive thinneſs; in the firſt " caſe the ſecretory glands of the *bile* are " obſtructed, and the ſmall quantity of what " is ſecreted ſtagnates in the *hepatic ducts*; " whence the liver grows hard, and under " its tunicle are formed whitiſh concretions " that reſemble hard *ſope*; in the ſecond " place not only the *bile*'s viſcidity, but " its exceſſive thinneſs, is likewiſe in fault; " for here the volatile ſalt, which is one " of the compounding principles of the " *bile*, over-abounds; whence the *bile* be- " comes too thin, too exalted, hot, and " irritating, to the *inteſtines*: in the former " caſe the body is too coſtive, and the

" *fæces*

" *fæces* are hard, and of a clay colour; in " the latter caſe a *diarhœa*, attended with a " fever, and thin yellow ſtools, conſtantly " teaze the patient: perſons who ſpend their " lives in a ſedentary manner, without pro- " per exerciſe, are moſt liable to that *lentor* " and *viſcidity* of the *bile*, becauſe its oily " part grows too thick and viſcid for want of " a due proportion of ſalt; on the contrary, " thoſe who render their faculties uſeleſs by " too high feeding, and drinking ſpirituous " liquors, are generally moſt expoſed to the " latter, that is, the *bile*'s exceſſive thin- " neſs."

Here ſeem two oppoſite complaints from the *bile*, requiring two different methods of cure: I have, nevertheleſs, treated theſe indications in the following manner, and have always met with ſucceſs in ſuch treatment.

Firſt, In caſe of coſtiveneſs, with aſh-coloured and whitiſh ſtools, the *oleum ricini*, or *caſtor oil*, was of the greateſt ſervice, in purging gently the inteſtines; eſpecially when often repeated: after which *nitrous* and *ſaponaceous* medicines came in very *apropos*. Laſtly I adviſed the *Bath waters*, which perfectly compleated the cure.

When the body was looſe from the thin, hot, and irritating *bile* in the inteſtines, I alſo gave *this oil*, which, obtunding and ſheathing the acrimony of the ſalts, was of more ſervice than *rhubarb* and all the claſs of *anodynes* that could be given; after which the *Bath waters* anſwered to a miracle.

This is conformable to the *Hippocratic* doctrine, and confirmed by the moſt eminent moderns; *Hippocrates*, in his book *de Morbis*, juſtly obſerving, *that it conduces very much to the relief and ſafety of feveriſh patients, and ſuch as abound with* bile, *to have the* bile *evacuated in due time by ſoft purges.* For which reaſon *Hoffman* makes this moſt excellent remark, that in all *fevers*, eſpecially *bilious*, a *ſoluble belly*, whether it is ſo naturally, or made ſo by medicines, is a highly lucky and ſalutary circumſtance: when, therefore, the *bile* becomes acrimonious, and lodges in the *primæ viæ*, it excites horrors, anxieties, and vomitings; and, being afterwards received into the blood, is generally thrown off the third day by febrile motion and heat.

Arthritic and *gouty* pains, which, according to *Hoffman* and the antients, draw their origin from a hot cauſe, are in like manner principally produced

duced by a fault in the *primæ viæ*, ariſing from a vitiated *bile*, which, being conveyed into the blood, proves the cauſe of all theſe pains; whilſt the cauſtic ſalts, with which the *bile* is impregnated, are fixt upon the membranes of the joints; and this is the reaſon why fits of the gout are for the moſt part uſhered in by pains of the ſtomach, anxieties, nauſeas, and loſs of appetite. Hence *Hoffman* and Dr. *James* rightly obſerve, that the perſon who knows how on theſe occaſions to evacuate the *primæ viæ*, without raiſing tumultuous commotions in the animal œconomy, and at the ſame time to correct the acrimony of the humours, is the likelieſt to ſucceed in removing, or at leaſt in mitigating *arthritic* and *gouty* complaints. This is moſt wonderfully performed, eſpecially in hot *bilious* conſtitutions, (which is commonly the caſe in all *gouty* complaints) by this excellent *oil*.

It likewiſe deſerves our attention, that periodical and critical *hæmorrhages* have commonly their cauſe in the *primæ viæ*; and the medicines which are beſt calculated for allaying and reſtraining the violence of the *flux* and *hæmorrhage*, are thoſe that are purgative, and render the *bile* temperate and balſamic;

this the *oleum ricini* performs in a wonderful manner.

Therefore, in the *hepatitis* and moſt *bilious diſorders*, (as *Boerhaave* and his learned commentator obſerve) whenever the bowels begin to ſend forth a bilious flux before the fourth day, it will be proper to promote that evacuation, according to *Hippocrates*'s general rule; not by draſtics and ſtrong purgatives, but by mild emollients, ſuch as *this oil*, uſing at the ſame time mild *abſterſives*, which are able farther to attenuate the matter of the diſorder, and render it fluxile; ſuch as freſh whey, made of new milk, in the ſpring or ſummer ſeaſon, while the cattle chearfully feed on the green paſturage; but this will be rendered more efficacious if it be boiled, as the learned Baron *Van Swieten* [l] obſerves, with thoſe herbs the botaniſts call *planipetalous* and *lacteſcent*, ſuch as *endive*, *ſowthiſtles*, *ſuccory*, *dandelion*, *viper-graſs*, *and the* common *gramen* [m] *officinarum*.

This

l Vid. *Boerhaave* aphoriſm. de ictero multiplici & commentar. Baron, *Van Swieten*.

m Vel ipſi bubulci vim graminis detergentem noſcunt, obſervando enim ſtercus bubulum notant obſtructiones & cruſtas pene lapideas,

This noble phyſician ſays, that, whenever he met with any *icterical* patients in his practice, he always remembered the advice given him by his excellent maſter *Boerhaave*, to think the cauſe of theſe complaints might poſſibly be *calculi* in the *gall bladder*; and to this ſcope he always directed his curative indications, commonly with ſucceſs: he ſays he made many trials in order to find out a menſtruum that would diſſolve and expel theſe concretions, but hitherto has never been happy enough to accompliſh his end.

I think, with all due deference to this great man's opinion, that ſaponaceous medicines, and the freſh juice of theſe plants mentioned above, would anſwer the firſt indication of diſſolving; and *this oil* I am ſure will gently, and without irritation, expel thoſe matters that are diſſolved by gentle ſtools; for *Gliſſon*'s obſervations, as well as daily experience, convince us that thoſe concretions, found in the livers of ſtall-fed cattle, are fuſed by the vernal juice of graſs, and are carried off by a ſupervening diarrhœa.

I find it more difficult to contract than to enlarge this chapter, as there offers ſo ample a field

lapideas, cum ſtercore excretas, dum recentia gramina carpunt boves; qui in ſtabulis detenti, diu languidi fuerunt admodum & icterici prorſus.—Vide *Huxham* de aere & morbis epidemicis, vol. ii. page 170.

a field in treating of *bilious diſorders*: I'll therefore end with the words of the excellent [k] *Hoffman*; who well obſerves, that, as the *bile* when in its natural ſtate, both as to quantity and quality, may be conſidered as a medicine of the higheſt uſe and importance to the body, ſo likewiſe, when vitiated, it becomes a poiſon; and conſequently, that the health of man may be either preſerved or deſtroyed by the *bile*; and that for this reaſon, in accounting for the ſymptoms of moſt diſeaſes, in taking our indications and preſcribing the means of relief, we are in a particular manner to advert to the ſtate and condition of this humour, and carefully obſerve, whether it is faulty, either with regard to its quantity, quality, and the degree of its motions; for certainly many medicines, which are very efficacious in the cure of diſeaſes, operate no otherwiſe than by increaſing the quantity of *bile*, when deficient; *evacuating* it, when redundant and ſuperfluous; correcting it, when vitiated; and preſerving its motion to the inteſtines, in its due and proper ſtate: for few medicines act directly and immediately upon the blood and humours, but moſt of them exert their virtues and efficacy upon the *primæ viæ*; where, in a ſecondary manner, they correct the vicious humours

[k] See *Hoffman* de morbis a *bile* oriundis.

mours (of which the *bile* is the principal) which are the direct and formal cauſes of diſeaſes.

This obſervation holds good in regard to *emetics* and *laxatives*: it will always hold in a particular manner in regard to a *vegetable purgative oil*, ſuch as the *oleum Ricini*, which operates on the bowels with little or no irritation, and will always in a moſt efficacious manner obtund and correct the acrimony of the *bile*, and at the ſame time cool the fever that is produced from the ſame cauſe.

I will venture to affirm that there is not, in the whole materia medica, a medicine like this *oleum Ricini*, which, at the ſame time, poſſeſſes in ſo eminent a degree theſe three qualities, of *cooling*, *purging*, and *correcting* the *acrimony* of the *bile*.

Of the APHTHÆ, THRUSH, *or* SORE MOUTH.

THIS is a *new* diſorder, and has never been known 'till within theſe few years abroad : it is *endemial* in warm climates, and ſeldom or never ſeen in cold countries, but when brought thither by the patient.

All the *aphthæ* we ſee in Europe are acute diſorders, commonly attended with a fever : this is intirely *chronical*, and will continue months, ſometimes a year or two, without deſtroying the patient.

Dr. *Hillary*, of Barbadoes, has lately written a very ample and accurate hiſtory of this terrible complaint : [a] but I am ſorry I cannot agree intirely with this gentleman in his treatment of this diſorder ; for I am ſure *antimonials* in general, which he preſcribes, can never be of ſervice when there is ſuch an acrimony of the *lymph*.

I know

[a] See Dr. *Hillary*, on the diſorders of Barbadoes.

I know that a doſe of this *oleum palmæ chriſti*, adminiſtered in the beginning of this diſtemper, will prevent the *apthæ*; becauſe, by this means, thoſe viſcidities, which ſtick in the ducts, and afterwards cauſe the *ſore mouth*, are intirely carried off.

The following are the ſymptoms that commonly attend this diſeaſe.

1ſt—A burning heat in the upper part of the *æſophagus*, ſomething like a *cardialgia*.

2dly—This heat gradually increaſes, without the patient's being able to attribute it to any cauſe whatever; either of intemperance, or irregularity in his way of living.

3dly—After this burning heat, little pimples or ulcers, with an acrid *lymph*, begin at the gums, and ſpread to the palate and over the mouth, and deſcend even to the *uvula* and *fauces*; the inſide of the lips, and the whole mouth, appear hot and reddiſh, and reſemble very much the zigzag of lightning.

4thly—After this, a cruſt or thin pellicle falls off from theſe little ulcers, which renders the whole mouth ſo raw, as not to admit any thing

thing but the ſofteſt and ſmootheſt decoctions. Sometimes a ſalivation will enſue, which ſeldom or never proves critical; on the contrary it often ſinks the patient.

5thly—The patient will continue in this manner ſome days, and then theſe pimples and puſtules will diſappear; he thinking himſelf pretty well, at leaſt much better.

6thly—A little time after he is taken with all the ſymptoms of a *diarrhœa*, the vomiting of an acrid *lymph*, which becomes very hot: this diarhœa will continue ſome time; after which, the ſame matter and the ſame complaints will return to the bowels; and thus a continual tranſlation of this peccant matter, and a metaſtaſis of this acrid humour through the whole inteſtinal tube, will be continually forming during the whole courſe of the diſorder: from hence theſe ulcers or puſtules fall down from the *primæ viæ* to the *anus*.

Sometimes a troubleſome and fatal *hiccough* will attend the laſt ſtages of this diſorder; becauſe, in this caſe, the ſtomach is covered with an *aphthoſe* cruſt; which falling off, the extremities of the nerves are left bare, and are conſequently

ſequently eaſily irritated to convulſions, and liable to inflammation and gangrene.

The excoriation and ſoreneſs of the mouth, tongue, gula, ſtomach, and the whole inteſtinal tube, plainly ſhew that the cauſe of this diſorder is an *acrid lymph*, turned upon thoſe parts, and producing thoſe effects abovementioned.

The coldneſs, dryneſs, and roughneſs of the patient's ſkin, which uſually attend this diſeaſe, demonſtrate an obſtruction and great want of perſpiration and ſweat, which in warm climates is or ſhould be very great in a ſtate of health.

In fine, obſtruction and acrimony of the humours, ariſing from thence, ſeem to be the immediate cauſes of this diſorder; conſequently the indications of cure are to cleanſe the *primæ viæ*, to correct the acrimony of the humours, and promote perſpiration.

Firſt, as there is an afflux of humours to the ſtomach and bowels, attended with a ſickneſs, reaching, and ſometimes vomiting, an *emetic* is clearly indicated; I accordingly commence the cure with fifteen grains of *ipecacuahna*

cuahna in ſubſtance, exhibiting at night a *diaphoretic anodyne*; this will carry off the acrid phlegm, with which the ſtomach and bowels are generally loaded.

The next day the ſecond indication of cure, viz. cleanſing and correcting at the ſame time the acrimony of the humours, will be beſt performed by a full doſe of *caſtor oil*; this, by cleanſing the bowels of their foulneſs, will contribute to render *diaphoretics*, and other medicines indicated, much more effectual. This is to be repeated occaſionally in ſmaller doſes, according as the phyſician ſhall ſee it neceſſary: after this the workings and efforts of nature, in this diſorder, ought by no means to be diſturbed by too frequent purges, ſince the end in general is better anſwered by gentle diaphoretics and temperating emulſions, prepared with almonds and a ſmall quantity of the poppy-ſeeds. [i]

Riverius recommends *narcotics* in the cure of the worſt and moſt dangerous *aphthæ*; becauſe they not only eaſe pain, but prevent a fluxion of humours to the parts affected.—Therefore, after thus cleanſing the *primæ viæ*, I com-

[i] See Dr. *Hillary*, on the diſorders of Barbadoes.

I commonly order the following *bolus* and *mixture* to be repeated every ſix hours :

℞. Theriac. Androm. *ſcrupulum* i.
Pulv. Rhei. *gr.* iv.
Rad. Ipecacuah. *gr.* ii. vel iii.
Syr. e Mecon. q. ſ.
M. f. Bol. ſextâ quâq; horâ ſumend, ſuperbibend. cochl. iii. ſeq. miſt.

℞. Aq. Menth. ſimpl. *uncias* vi.
Confect. Raleigh. *drachm.* ii.
Aq. Menth. Spir. *uncias* ii.
Ol. Palm. Chriſt. (v. g. ſol.) *drachm.* iii.
Magnes alb. Syr. Papaver. albi aa *unciam* ſs.
F. Miſtura.

The patient ſhould, during the whole cure, take every morning and evening a pint of *warm milk*, in which an ounce of *mutton ſuet* was melted; this will be of excellent ſervice in this caſe, as well as in *dyſenteries*.

In the above preſcription, the *oleum palmæ chriſti* and *magneſia alba* will correct and obtund the acrimony of the humours; whilſt the *theriaca andromachi* and *ipecacuahna* will promote

perſpiration, and prove, as Dr. *Akenſide* obſerves, an excellent *antiſpaſmodic*.

Whenever the patient complains of pains in the ſhoulders or feet, which is often the caſe, I have always found a *perpetual bliſter*, applied to the part affected, of great ſervice; I have likewiſe, even when the patient has not complained of thoſe pains, applied a perpetual bliſter to the back, by way of revulſion.

Mr. *Renaudet*, whom I mentioned before, in one of his letters to me, ſays, " that he often experienced the good effects of *perpetual* " *bliſters*, dreſſed with the following ointment, " in that terrible diſeaſe of the Weſt-Indies, " called the *thruſh*, which is moſt common to " the inhabitants of Barbadoes, viz.

℞. Cantharid. opt. contuſ. *unciam* i.
Coque in Aq. Fontan. lib. ſs. ad *uncias* iv.
M. cum ung. baſilic flav. *uncias* iv.
Coq. lento igne ad liquoris conſumptionem.

" This is the moſt excellent *ung. epiſpaſticum* " in this caſe that was ever made uſe of; it " acts with ſo ſmall a degree of irritation, that " the patient is not ſenſible of any pain or in-

" con-

" convenience from it; the ſalts of the flies
" being probably more intimately engaged by
" the unctuous part of the *baſilicon* guards them
" from ſtimulating the urinary paſſages, ſo as
" never to occaſion a ſtranguary, which too of-
" ten is brought on by all other forms that have
" yet been tried: beſides, this ointment not be-
" ing loaded with the filaments and ſubſtance
" of the flies, the opening is kept much clearer
" and free from thoſe ſloughs and foulneſs that
" are with the utmoſt difficulty prevented by
" the uſe of the *unguentum epiſpaſt.* of the dif-
" ferent diſpenſatories."

Whether the cauſe of this diſorder, I have now deſcribed, be ſimilar in every reſpect to the cauſe of a *rheumatiſm*, I will not pretend to determine; but have lately read with pleaſure an elegant Latin treatiſe on the *dyſentery*, written by Dr. *Akenſide*, [d] who greatly inſiſts on the cloſe affinity of a *dyſentery* and *rheumatiſm*, inſomuch that he generally ſuppoſed them to have one common cauſe; and ſometimes does not ſcruple to call the former a *rheumatiſm of the bowels*, in the following terms: — " Denique hanc morborum ſimi-
" litudinem toties jam obſervavi & perſpexi,

 " ut

[d] Vide de dyſenteria commentar. authore Marco *Akenſide*.

" ut dyſenteriam jamdudum pro rheumatiſmo
" inteſtinorum habeam—nos vero id vocabu-
" lum a doloribus artuum et muſculorum ad
" inteſtina transferendo ſimilem plane utriuſ-
" que morbi cauſam & materiam eſſe con-
" tendimus."

This I muſt obſerve, that I have always found a great ſimilitude between the *aphthæ* above deſcribed and *dyſenteries*, in warm climates: they both continue very long, with little or no fever; are both chronical diſorders; having ſeen patients continue months together under each complaint; they both appear to have their tranſlations and metaſtaſes from the bowels to the joints, and *vice verſâ*; gripings, and frequent ſtools, are common to both; the cauſe in one ſeems to be an acrid *mucus*, corroding the inteſtines; in the other an acrid *lymph*, or ſharp humour turned upon thoſe parts.

In regard to the method of cure, I have for theſe four years paſt treated this *ſore mouth*, or *aphthæ*, with ſucceſs, in much the ſame manner as I find Dr. *Akenſide* has treated *dyſenteries*; that is to ſay, in giving *Ipecacuahna* in very ſmall quantities; ſometimes with, and ſometimes without

out *diaphoretic anodynes*; with this difference, that I never omit the *oleum palmæ chriſti*; eſpecially at the beginning of the diſorder. This medicine I infinitely prefer to *rhubarb* in the firſt ſtages of the *aphthæ*, notwithſtanding the extraordinary recommendation of it by ſome eminent modern phyſicians.

Dr. *Akenſide*, who treats elegantly of the *rationale* of the ſalutary actions and effects of *ipecacuahna* in *dyſenteries*, reſolves the whole virtue of this root into its *aperient* power of *keeping the body open*, and its faculty of *relaxing* the coats of the inteſtines, and, in fine mitigating the *tormina* or *gripes*.

I would willingly aſk this queſtion: Which of theſe two medicines, the *ipecacuahna*, or the *caſtor oil*, is moſt likely to poſſeſs theſe *aperient* powers of keeping the body open, of relaxing the coats of the inteſtines, and of abating the violence of the gripes? If the *ipecacuahna* be ſuppoſed, by the doctor, to poſſeſs ſuch an *anodyne* and *antiſpaſmodic* virtue, as cannot be expected from opiates in this diſorder, what are we not to expect from the *oleum ricini*, which poſſeſſes all thoſe powers and virtues, above deſcribed by the doctor, in a moſt eminent degree?

Notwithſtanding theſe heroic medicines, the *oleum Ricini*, *Ipecacuahna*, and *Rhubarb*, the *apthæ chronicæ* are often ſo obſtinate, the ſmall puſtules and ulcers are ſo foul, that ſometimes we have been obliged to recur to *ſorrel whey*, *vinegar whey*, and other acids; which have been of ſervice, when all other means have proved ineffectual, in order to deterge and cleanſe the ſaid ulcers. This method (however ſtrange it may appear to ſome) has frequently been of ſervice when every thing elſe was of no ſignification.

The *rationale* of this method of cure ſeems confirmed by what my learned and ingenious friend, Dr. *Sarsfield*, of Cork, tells me. This gentleman, who has often had opportunities of ſeeing in practice the worſe kinds of *aphthæ*, aſſures me, that he has often uſed the following topical compoſition with ſucceſs; and where he could touch the *aphthæ* with the ſame, it was almoſt infallible:

℞. Mell. Roſar. *uncias* ii.
Borac. *drachmas* iii.
Sp. Vitriol. *drachmas* ii.

Now, I am apt to think, that, if ſmall quantities of this compoſition were well diluted

luted and conveyed to the ſtomach and inteſtines, it would in every reſpect anſwer, and be as efficacious as *ſorrel* and *vinegar whey*, which has been ſo often of ſervice in the laſt ſtages of this diſorder.

I have likewiſe uſed the following medicines in the *aphthæ* and *dyſenteries*, occaſionally, and *pro re natâ*, as ſpecifics.

A ſtrong *decoction* of the *ſimaruba*, given in ſmall quantities, and often, in both diſorders promiſcuouſly; the *decoctum arabicum*; the wax emulſion; warm milk punch; common punch, or toddy, in which a hot poker has been quenched. Which ſhews the great analogy there ſubſiſts between theſe two complaints.

The cortex of the baſtard *Locus*, and the miſletoe of the lemon-tree, are both excellent medicines at the end of a *dyſentery*, after having occaſionally uſed the Ipecacuahna and *caſtor oil*.

Bathing in *Bath waters*, with prudence, is a powerful remedy in the *aphthæ chronicæ* of the Weſt-Indies; it will greatly increaſe perſpiration, and at the ſame time ſtrengthen the

ſolids. We daily ſee [p] *palſies* cured at Bath by *bathing*; which, in a ſurpriſing manner, will corroborate in relaxations, and relax in contractions. It is therefore ſurpriſing that the celebrated Dr. *Mead* ſhould decry the uſe of *Bath waters*, and *bathing*, in *paralytic caſes* in general; ſince we have the united teſtimonies of moſt writers, in different countries, who have written on warm waters and bathing, to vouch for their powerful effects in theſe caſes: *ſed quandoq; bonus dormitat Homerus.*

The patient, in the *aphthæ chronicæ*, when he finds himſelf recovering, ſhould by all means be careful of his *diet*, as the leaſt error in this regard will bring on relapſes. Riding ſhould, at this time, be inſiſted on; he ſhould now take a *horſe* for his *phyſician*, and an *aſs* for his *apothecary*;—*vireſque acquirat eundo.* [q]

Of

[p] See Dr. *Rutty* on mineral waters. [q] *Huxham.*

Of the CRAMP, *or the* TETANUS.

THE *tetanus* is a continual and involuntary contraction of all, or moſt of the muſcles of the human body, and rigidity without relaxation. When the body was bowed down forward, the Greeks called it an *emproſthotonos*; when it was bended backwards, it was called *opiſthotonos*, when the body was fixt in a rigid erect poſture like a ſtatue, it was called *tetanus*; very often, when only one limb was ſtiff, in this manner, it was likewiſe called *tetanus*.

In the *tetanus* the anterior and poſterior muſcles are equally contracted; the ſpaſm or convulſion is felt commonly as it were tending from the *ſternum* to the *vertebræ*; moſt acute pains during theſe ſpaſms all along the ſpine of the back, with a contraction and ſtiffneſs of the dorſal muſcles. The patient complains of a tenſeneſs about the *præcordia*, a ſtiffneſs

ſtiffneſs and locking up of the jaws; the face becomes red; the eyes look ſtern; and, as the diſeaſe advances, theſe ſtrong convulſive ſpaſms become more frequent, and more violent. The poor patient is now in a moſt diſtreſſed condition, dreading every quarter of an hour a return of theſe ſymptoms; the pulſe is very often præternaturally ſlow; the blood is ſo far from being ſizy, that its particles do not cohere as much as they do in the natural ſtate; the body is commonly conſtipated; often an intermiſſion in the pulſe; ſometimes the body is covered with ſweats, from the violence of the agonies, yet no feveriſh heat attends; the exterior and interior ſenſes all the while remain whole and intire.

This is a ſhort but true deſcription of this terrible diſorder; which is *endemial* in very hot climates, but eſpecially in rainy weather ſucceeding great heats.

If this diſorder proceeds from a *wound*, it is ſeldom or never cured. According to *Hippocrates*,—*convulſio vulneri ſuperveniens lethalis*: tho' I have ſeen one cured, and two others much mitigated in their ſymptoms, by firſt dividing the nerve above the wounds, then dreſ-

dreſſing it with a digeſtive with opium : after which I commonly treated it in the followiug manner ; as I did all other *cramps* from whatever cauſes they proceeded.

Firſt, in order to relax the rigid contraction of the nerves, I fomented the præcordia, jaws, neck, and ſpine, with warm *caſtor oil*, with (and ſometimes without) Barbadoes tar : I then gave two or three ſpoons-full of the *oil*, with a clyſter of the ſame ; ſtill repeating every three or four hours emollient fomentations, and anointing the parts affected as above. After which I had recourſe to muſk and opium boldly, without any fear, according as the ſymptoms were more or leſs violent ; ſo as to give ten or twelve grains of extractum thebaicum in twenty hours.

To prevent coſtiveneſs, which this quantity of opiates might occaſion, emollient relaxing clyſters, with the *oil* of *palmæ chriſti*, are to be repeated every day.

After the cure, the bark, and *anti-epileptics*, are to be inſiſted upon for ſome time, in order to ſtrengthen the parts ſo much weakened by this diſorder.

This

This method ſometimes ſucceeded, but oftener failed; as indeed all methods hitherto found out to conquer this moſt terrible diſorder: but, as *cramps* in general fall under this head, I do not doubt but it will be agreeable to my readers to ſee the following letter, concerning the effect of *tar-water* in this diſorder, which I received very lately from Col. *Martin* of Antigua. This ingenious gentleman has favoured the public with ſeveral curious and philoſophical remarks on Weſt-Indian huſbandry; and, without being a phyſician, has a general tincture of medical knowledge.

" *SIR*,

" The variety of cures made by *tar-water* " I have often ſeen in many printed caſes, as " being very effectual in pains of the ſtomach, " by indigeſtion, flatulences, &c. but I " do not remember it recommended as a " cure for the *cramp*, for which I eſteem it " a ſpecific.

" I diſcovered this virtue by accident, thus: " my wife in her laſt pregnancy was frequently " afflicted with the cramp in all her limbs; " at length ſhe was taken ſuddenly, in the " night, with a cramp in her bowels, to ſuch

" a de-

" a degree, that I thought her expiring; I " ſtarted out of bed much frightened, and, not " having laudanum or any other medicine at " hand, I poured ſome *tar-water* out of a bot- " tle upon the table, into a ſilver panakin, (all " which I commonly kept on the table with a " wine glaſs to waſh the mouth) and, immedi- " ately warming the ſame over a candle, I gave " it to the patient, who was inſtantly at pre- " ſent eaſe, and continued ſo all night.

" This induced her to drink a wine glaſs " of *tar-water* every night going to bed, and " then ſhe had not the *cramp*; but, as ſoon as " ſhe neglected to take the *tar-water*, the *cramp* " returned, and was conſtantly and inſtantly " cured by the ſame remedy.

" This gave me ſo high an opinion of its " efficacy, that I put a woman of forty years " old into a courſe of *tar-water*, for five or ſix " weeks; which intirely cured her of a moſt " dreadful *cramp*, which had afflicted her for " ſeveral years, and for a week together had " her limbs drawn up and convulſed by the " *cramp*, under the moſt excruciating pains; " but that courſe of warm *tar-water*, taken by " half a pint morning and evening, cured her

" ſo

" ſo effectually, that for five years ſhe never had " a fit of it.

" My method of making *tar-water* is " this:—

" Take a pint of the beſt *Norway tar*, " put it into ſix quarts of ſoft water in an " unglazed earthen veſſel, ſtir it well together, " let it ſtand twenty-four hours, then draw " it off clear from the ſediment at the bot- " tom, and from the oil on the ſurface. If " an hole be drilled within two inches of the " bottom of the veſſel, it may be drawn off " the eaſier, and bottled for uſe: it will keep " thus for any time, and be leſs diſtaſteful; " but, by waſhing the mouth morning and " evening, the palate will be ſoon reconciled " to the taſte of the *tar-water*, and it is " moreover thought a good antiſcorbutic for " the gums."

*** The above account I have not had ſufficient opportunities of confirming.

OF

CALCULOUS COMPLAINTS.

I THINK it is univerſally allowed, that whatever is the cauſe of *nephritic* complaints, (whether the ſtone, or any other cauſe of inflammation) it is abſolutely neceſſary, after bleeding, to recommend ſuch things as are emollient and lubricating, inwardly taken, and externally applied; for it is from this method only that one can ſafely prevent the inflammation in thoſe parts that are injured by a ſtone; or even remove the inflammation when it is once formed, and relax the paſſages by which the *calculus* muſt paſs from the kidnies to the bladder: but the *oleum palmæ chriſti*, which I have been endeavouring to recommend, conduces in a moſt particular manner to this effect; and is therefore extremely uſeful for the cure of a gravelly nephritis; inſomuch that in theſe complaints I never ſaw any medicine anſwer ſo ſurpriſingly.

The

The *calculus* conſiſts commonly of a nucleus, and concentric tunics and cruſts, treated in a chymical manner; it reſolves itſelf into air, phlegm, volatile urinous ſalt, an oil, and *caput mortuum.*

Helmont, Dr. *Hales*, and Dr. *Mead*, were of opinion, that the matter of the *calculus* was a certain tartar, formed in the kidnies by a præternatural coagulation; and the proximate cauſe of this diſeaſe is tartarous ſalts conveyed out of the blood into the ſmall ducts of the kidnies. Therefore, to prevent thoſe ſalts from ſhooting in cryſtals, lixivial ſalts, or the lees of ſope, ſeem to be extremely proper: next, to keep the cryſtals from coaleſcing into a *calculous* ſubſtance, oily medicines, and in a particular manner the *caſtor oil*, muſt be very efficacious. And this rule, the ingenious Dr. *Mead* ſays, ought always to take place, with regard to diet as well as medicine.

Therefore, the *ſtone* is to be treated in a quite different manner during the fit, and out of it. During the paroxyſm, the inflammation is to be taken off the parts by bleeding, emollient and turpentine clyſters, with *caſtor oil*; the ſame oil taken by way of purge; with warm baths; and, when the inflammation

tion is taken off, opiates, and emollient oily decoctions. After the paroxyſm is over, then (and not 'till then) we muſt recur to lithontriptics and diuretics: which muſt be uſed with the utmoſt caution; for a ſtone is never forced out when the patient is in great torture; tho', when the pain ceaſes, it ſometimes comes away unexpectedly, and almoſt of its own accord, with the urine. On the contrary, ſharp diuretics do miſchief; as they increaſe the fever, and the preſent inflammation, while they give a greater acrimony to the urine; from all which the painful parts are more irritated, and the ſeveral ſymptoms increaſed.

When there remains no inflammation or pain, we may ſafely recur to ſmall quantities of the *lixivium ſaponaceum*, diluted in ale or veal broth. This medicine, and the *caſtor oil* blended, I have known relieve, and often cure, many *calculous* complaints.

I do not pretend to ſay (tho' there is great reaſon to ſuſpect) that the ſope lees is Dr. *Chittick*'s medicine; but this I will venture to affirm, that it never performed any cure but what the *caſtor oil* in the fit, and the lixivium out of it, has executed, and will execute.

I commonly, out of the paroxyſm, give twice a week two or three ſpoons-full of the *oil*; and the intermediate days begin with ten drops of the lixivium, which I increaſe to a tea ſpoon-full in a pint or half a pint of veal broth every day, morning and evening. I often give, inſtead of it, the aq. calcis which is an excellent medicine, eſpecially the oyſter and cockle-ſhell lime-water, which poſſeſſes a much greater power of diſſolving the *calculous*, than that of ſtone lime.

Here I cannot help recommending the uſe of lime-water, to prevent miſcarriages of women. Col. *Martin*, whom I mentioned before) writes me, that he had tried the experiment on a lady who had miſcarried often, and it ſucceeded ſo well, that it not only ſaved the child of which ſhe was then pregnant, but ſhe afterwards became mother of another; and ſhe is now going on to furniſh her huſband's table with more olive branches: this I have not had an opportunity of trying.

That *this oil* alone will diſſolve *calculous* and *bilious concretions*, I do not pretend poſitively to affirm: but am really of opinion, that it has ſome lithontriptic quality, and will greatly help

help towards diſſolving theſe concretions :— which I think will appear from the following obſervations.

1ſt—As I have been ſubject to gravelly complaints, I have often taken this oil ; and I can affirm, that I never uſed it but there always ſucceeded, more or leſs, a diſcharge of ſabulous matter.

2dly—Tho' the groſſer parts of this medicine, as I ſaid before, on account of its thickneſs, will not paſs the lacteals, yet its moſt ſubtile and active parts may ; which I think is evident from its colour and ſmell, which I have obſerved to have been ſometimes communicated to the urine.

3dly—Three ſpoons-full of this oil will commonly give me (who am hale and ſtrong) ſeven or eight gentle ſtools ; yet, twice or thrice within theſe two years, I have found that the ſame quantity of this medicine purged me but once, the reſt having paſſed off in a great diſcharge of urine.

4thly—I have obſerved, that in thoſe iſlands where this oil is commonly uſed, the inhabi-

tants in general are not ſo ſubject to *calculous* complaints, as in other parts.

5thly—Since I have uſed this oil myſelf, (of which I commonly take a doſe once in two months, without any other phyſic) I find myſelf intirely freed from the *ſtone*; tho', after every doſe of this medicine, (as I obſerved before) I ſtill find a diſcharge of *gravel*, but without any pain or moleſtation.

It is very remarkable, that there are ſome patients who don't diſlike the *taſte* of *this oil*; while others think the ſmell and taſte very diſagreeable. For the ſake of the latter, a few drops of the oil of roſes, or a few ſpoonsfull of roſe-water, may be added, in the beating up the ſeeds or nuts into a paſte: this will rarify the oil, facilitate its extraction, add to its odour, and rectify in ſome manner its taſte; at leaſt 'twill hinder it from being ſo diſagreeable to delicate patients.

I can't diſmiſs this ſubject of the *calculus*, without acquainting my Weſt-India readers, that they have, beſides *this oil*, an excellent medicine for all *gravelly* complaints, called in thoſe parts the *bottle-cod root*: the botanical name I don't know, but take it to be a ſpecies

of the *raphanus*, or *raphanoides*. This root has all the pungency of the *raphanus*, or *horſe-radiſh*, and at the ſame time all the mucilaginous property of the *marſh-mallow*.

Since my firſt publication of this treatiſe, I have received ſeveral letters from the moſt eminent phyſicians in *England* and abroad, concerning this *oil*, which is now ſold in moſt apothecaries ſhops in *Great Britain*. I have two letters by me from the incomparable *Dr. Huxham*, of *Plymouth*, wherein he mentioned the ſucceſs he had found of the *caſtor oil*, in ſeveral caſes; but, in particular, in the *Devonſhire colic*, and in nephritic complaints; at the ſame time deſiring I would procure "him a great quantity of the *oil*, "coſt what it would; he did not value the price "for ſo excellent a medicine:" (Theſe are the Doctor's own words.)

Laſt *February*, I received the following Latin Letter from the learned *Baron Van Swieten*, firſt phyſician to their Imperial Majeſties, and my quondam profeſſor at *Leyden*; which, I think, will not be unacceptable to the public, as every thing, that comes from his pen, muſt be agreeable to all true lovers of the medical art:

Honoratiſſimo Viro

PETRO CANVANE, *M. D.*

S. P. D.

GERARDUS *L. B.* VAN SWIETEN.

Diſſertationem tuam, *de Oleo Palmæ Chriſti*, miſerat mihi Nob. Eques de *Brady* Principis Caroli Ducis Lotharingiæ Archiater, quam hinc avidè legens, inveni, quod confirmet pulchrè illa, quæ de eodem hoc oleo, ejúſque uſu, habentur apud *Labat*, *Nouveau voyage aux Iſles d' Amerique Tom.* I. *Part* 2. *pag.* 212, ubi etiam monet oleum hoc, internè datum, ſurſum quandoque & deorſum purgare ſicque colicis doloribus opitulari : addit, idem oleum, preſſione ſolâ paratum, ranceſcere nunquam, ſed æque fideliter alterum exemplar unà cum gratiſſimis litteris tuis attulit Lord *Taafe*, nobilitate & virtutibus venerandus ſenex, qui & ſimul tradidit olei ſpecimen; pro duplici hoc munere debitas ago gratias, uti etiam quod mei meminiſſe volueris.

Planta hæc non infeliciter creſcit in Europa. Tentabimus ejus effectum, quem ſalutarem fore non dubito. Vale & res tuas feliciter age!

Dabam 16 *Janu.* 1769.

Of

Of the FLUOR ALBUS, GONORRHOEA, *&c.*

IN regard to the *fluor albus*, the principal intention of cure ought to be directed towards mending the habit of body, from ſome fault from which it may derive its origin.

[a] Wherefore, generally ſpeaking, it will be proper to begin the cure, as moſt authors agree, by giving a vomit, eſpecially with *ipecacuahna wine*.

Frequent purging is indicated, chiefly with *this oil*; which will not only purge, but mend the habit of body. As it will prove an excellent balſamic, it may be taken with the addition of aromatics; and in ſome caſes of a little calomel now and then: after which the laxity of the fibres requires aſtringents, particularly ſuch as have the *cortex peruvianus* and ſteel in their compoſition.

[a] See *Mead* de *fluore albo*.

Moreover, it is to be obſerved in this place, that women of a *ſpare* and *lean* habit of body, who are apt to be coſtive, eſpecially after delivery, often become languid and melancholy, labouring under a moſt obſtinate and miſerable *obſtruction*, from an *indurated* matter in the *colon*; and this hardneſs in that place is ſufficiently evident to the *touch*; and by the unſkilful is ſometimes taken for the *placenta*, and ſometimes for the *ſpleen*; when in reality it is only the *obſtructed* matter ſtopping in the large inteſtines; whence it cannot be removed by any medicines except *eccoprotics*; for, if ſtronger purges are given to women in this caſe, dreadful ſymptoms are immediately excited, as *vomitings*, *cholics*, and *hyſterics*: wherefore, at that time a ſpoon-full of *this oil* is to be taken; and three or four ſpoons-full thrown up in form of a clyſter, to remove and expel the infarction,

This oil is likewiſe of ſervice to ſome artificers: as alſo to all ſtudious perſons; whoſe abdomen is uſually much and frequently compreſſed: becauſe, whilſt they are intent on their ſtudies, they generally ſit with their bodies

dies bent, and ſo compreſs the contents of the abdomen. [n]

In regard to *gonorrhœas*, the *oleum palmæ chriſti*, in every ſtage of this diſorder, is an excellent medicine. 1ſt, as a cooling purge; 2dly, as a balſamic and vulnerary; 3dly, it anſwers in the ſame manner as *balſam capivi*, which it very much reſembles in its effects.

In the *Influenza*, that was epidemical in the year 1762, *this medicine*, taken twice a week, with ſufficient diluting, was of excellent ſervice. It was neceſſary ſometimes to take at night ſix grains of the *pil. è ſtyrace*.

And in all pectoral and conſumptive caſes this is the beſt and ſofteſt purge, taking at the ſame time an infuſion or decoction of the wild liquoriſh or bead-vine, ſweetened with the ſyrup of calabaſh.

We have nothing in Europe to be compared to this laſt medicine in conſumptive caſes. I have been lately told it is now in great vogue in ſome parts of France.

This

[n] Vide *Rammazini* de morbis artificum.—See, alſo, Dr. *Cheyne*'s treatiſe on health and long life, page 221.

This oil not only acts on the *primæ viæ* as a purging medicine; but, given in ſmall doſes, and aſſiſted by proper diluents, will become aperient and deobſtruent; and be rendered either ſudorific or diuretic; as I have found by repeated trials. Hence its uſefulneſs in ſeveral *chronic* diſeaſes is evident. And I don't doubt, but when its different virtues are more inveſtigated, the *palma chriſti* will be called the *vegetable antimony*, as its different preparations will *vomit*, *purge*, or *ſweat* almoſt in the ſame manner as the different preparations of antimony, that great mineral, ſo productive of ſovereign medicines and ſecrets in phyſic.

In fine, the *caſtor oil* is an excellent purge in moſt *gouty* complaints; tho' we are ſometimes obliged to recur to warmer phyſic in this diſorder. It has alſo been uſed *externally*, in *dropſical* caſes, with ſucceſs. For it has been lately found, that, after premiſing a few draſtics, eſpecially the *elaterium*, this *oil*, being well rubbed over the whole abdomen, has occaſioned a great and ſudden diſcharge of urine.

This method of friction with oil is not a new practice, but was often uſed by *Aetius*: and *Celſus* takes notice of the ſame, in his cure of a *dropſy*,

a *dropſy*, in the following words :—*Utendum fricatione, madefactis tantum manibus aquâ, cui ſal et nitrum & olei paucum ſit adjectum, ſic ut pueriles aut muliebres manus adhibeantur, quo mollior earum tactus ſit.*

After all I have ſaid concerning this medicine, I would not be underſtood to mean, that it ſhould be looked upon us a *catholicon*: with the excellent *Boerhaave*,—*nullum ego cognoſco remedium, niſi quod tempeſtivo uſu fiat tale.* —I know of no remedy in phyſic, but what becomes ſuch by due application. This, like all others, will be excellent or otherwiſe, according as it is well or ill applied. Nor will it agree with all conſtitutions: perſons afflicted with bilious diſorders, acute fevers, inflammatory diſeaſes, and all thoſe of warm bilious conſtitutions, will find great benefit from the uſe of it. On the contrary, perſons afflicted with cold diſorders, cachexia, leuco-phlegmatia, and dropſical complaints, and all thoſe of a cold, phlegmatic habit of body, ſhould by all means refrain from the uſe of it, as it is apt, in thoſe diſorders and conſtitutions, to cauſe ſpaſms.

As we are in all likelihood indebted to the *American Indians* for *this medicine*, as well as for the

bark,

bark, *ipecacuahna*, and ſeveral others; I think there will be no impropriety in finiſhing this treatiſe with a ſhort account of the practice of phyſic at the court of *Montezuma*, emperor of Mexico; chiefly taken from the conqueſt of Mexico, by *Antonio de Solis*, [a] ſecretary and hiſtoriographer to his catholic majeſty: to which I will add two or three obſervations from the learned Dr. *James*, [b] in his introductory preface, tracing the practice of phyſic thro' its different revolutions.

This laſt-mentioned gentleman obſerves, that, of all the people, of whom hiſtory gives us any information, the *American Indians* appear, with reſpect to *phyſic*, to have been the wiſeſt; as indeed it is indiſputably better to have no theory at all, that one that is bad, and capable of introducing errors into practice.

Don *Antonio de Solis*, ſpeaking of *Montezuma*, emperor of Mexico, ſays, that there was nothing to be ſeen in his gardens but flowers of delightful variety and fragrancy; with medicinal

[a] See Dr. *James*'s introductory preface to his medicinal dictionary.

[b] See hiſtory of the conqueſt of Mexico, by Don *Antonia de Solis*, vol. 1, page 329.

cinal herbs, ſet in ſquares ; and ſummer-houſes, where he uſed to ſup.

He took a particular care to tranſplant into his garden all the choice ſimples that benign climate produced ; where the only ſtudy of the phyſicians was to attain to the knowledge of their names and properties. They had herbs for all kinds of pains and infirmities ; and in the juices and application of theſe herbs conſiſted all their remedies ; and with theſe they effected ſurpriſing cures, having by long experience found out their virtues ; and, without diſtinguiſhing the cauſe of the diſtemper, applying them, to the patients great benefit and recovery.

The king freely diſtributed to all, who had occaſion for them, ſuch of his ſimples as were preſcribed by the phyſicians, or deſired by the ſick ; and was wont to inquire if the patient had received any benefit therefrom : either gratifying a ſort of vanity he had, in the ſucceſsful operation of his medicines ; or believing that he fulfilled the obligation of a ſovereign, in taking ſuch care of the health of his vaſſals.

Don *Antonio de Solis*, in another place, ſpeaking of the ſickneſs of *Cortez*, informs us, that the ſenate ſent for all the beſt phyſicians of their coun-

country; whoſe ſkill conſiſted intirely in the knowledge and choice of medicinal herbs; which they applied with a wonderful diſcernment of their virtues and effects; varying the medicines according to the condition and different turns of the diſtemper. And to them he was intirely beholden for his cure. For, making uſe at firſt of wholeſome, cooling ſimples, to correct the inflammation, and mitigate the pain, which occaſioned the fever, they proceeded by degrees to apply others, proper to ripen and heal the wound; with ſo much ſkill and good fortune, that in a little time they reſtored him to his perfect health.

Remark the *Firſt*.

Let the *rational phyſician* laugh as much as he pleaſes at *empirics*; it is certain, however, that the firſt knowledge of phyſic was intirely from experience. And, in a country intirely unacquainted with natural philoſophy, (which ſearches out cauſes by effects) it was no ſmall matter to find ſo great a progreſs made in the knowledge of nature, as we find among theſe Indians.

Remark *the Second*.

Theory cannot aſſume, with any appearance of reaſon, the power of diſcovering the virtues of

of ſimples, in curing diſtempers ; tho', by inveſtigating the cauſes of diſorders, it may adapt known remedies with greater propriety, and perhaps with greater ſucceſs to particular caſes ; provided always that the theory has its foundation more in truth, than in the imagination of the whimſical and trifling.

Remark *the Third.*

In conſequence, therefore, of neglecting all manner of theory, and cultivating experience alone, the *American Indians* have been able to diſcover to the Europeans the moſt effectual medicines yet known ; as the *Peruvian bark*, *ipecacuahna*, and a multitude of others ; for which we are indebted to the experience of the illiterate inhabitants of the new world : whilſt all the boaſted learning of the Europeans has been ſo little productive of improvements in phyſic, that, with reſpect to our own plants, we know very little more of their virtues, than what we have learned from *Dioſcorides*, and ſome others of the antients : and as to diſtempers, thoſe that were deemed incurable two thouſand years ago would have remained ſo to this day, if the experience of the virtues of the *peruvian bark*, *ipecacuahna*, *rhubarb*, and *this oil*, had not furniſhed us with the means of relieving patients labouring under ſome few.

To conclude —Many medicinal diſcoveries have been brought about by inſpiration, (that is, by the peculiar direction of providence) which are uſually attributed to accident; otherwiſe, it ſhould ſeem very ſurpriſing, that after the labour of a multitude of men, both of learning and abilities, who have ſpent their intire lives in phyſical reſearches, and after all the advantages of our reaſon, we find (to the mortification of human wiſdom) that the moſt important remedies have been originally diſcovered by *ſavages* and *madmen*: whilſt they had nothing leſs in view than the improvement of phyſic. By the former I underſtand the *Indians*, and by the latter I mean the *Alchymiſts*; who, in their purſuits after the tranſmutation of metals, have blundered upon ſome medicines of efficacy.—Thus we are told in ſcripture: GOD *has made fooliſh the wiſdom of the world*; *and* GOD *has choſen the fooliſh things of the world, to confound the wiſe.*

F I N I S.